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ABSTRACT

Ten easy-to-read books were examined for readability using Fry's Readability Graph and Betts' criteria for oral reading performance. Five first-grade and second-grade children read selected passages from each of the ten books. A correlation of 0.73 was obtained between rank orders according to readability graph scores and according to oral reading errors. Results from the oral reading indicated that 80 percent of the books sampled were at the frustrational level for readers in this study. (Author/AA)

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A COMPARISON OF READABILITY GRAPH SCORES AND ORAL READING ERRORS ON TRADE BOOKS FOR BEGINNING READERS

A THESIS

SUBMITTED TO THE FACULTY

OF THE GRADUATE SCHOOL OF EDUCATION

OF

RUTGERS

THE STATE UNIVERSITY OF NEW JERSEY

BY

MARGARET FLEMING PAOLO

IN PARTIAL FULFILLMENT OF THE

REQUIREMENTS FOR THE DEGREE

OF

MASTER OF EDUCATION

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

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CHAPTER I

THE PROBLEM

For many years, educators have been concerned with the problem of providing instructional materials at a level appropriate for the learner. This concern is particularly significant for teachers of beginning readers since the reading ability of such students is naturally limited. The outgrowth of this concern for appropriate materials has led to the formulation of readability concepts. Klare (1963) noted that the term indicates several usages: legibility of handwriting or type; ease of reading due to interest level or style; and, ease of comprehension due to style of writing. Most research has been directed toward the third part of this concept and various devices have been constructed to measure the difficulty level of reading matter. Although the three aspects are closely interrelated, formulas to determine readability have focused solely on the factors affecting ease of comprehension.

Vocabulary load and sentence structure were most often incorporated into quantitative studies (Chall, 1958); however, few investigators have applied these to materials at the primary level. Even fewer have confined their

research to materials designed for the beginning reader.

Publishers furnish a variety of trade books aimed at the young child learning how to read. To distinguish the fine variability in level of difficulty for these selections, a sensitive instrument would be necessary. Its merits would depend on its correlation with the actual reading success of children who utilize such books, as well as its practicality and ease of administration.

Statement of the Problem

This study is designed to examine the readability of trade books for beginning readers. Although publishers attempt to control their vocabulary, it might be expected that many of these easy-to-read books are inappropriate for the child learning to read.

Specifically, this study examined a selection of books for beginning readers to determine their difficulty level according to the Readability Graph (Fry, 1971). The same selections were also employed to investigate their actual reading ease by children on a beginning level. A comparison of these results would provide information to assist the selector in determining the appropriateness of such trade books for the beginning reader.

Problem 1

How well does the Readability Graph (Fry, 1971) rank trade books for beginning readers when compared with a ranking determined by oral reading errors? In other

words, how well does the Readability Graph correlate with oral reading errors on rank order of difficulty?

Problem 2

What percentage of books marketed for beginning readers are on independent, instructional, and frustrational levels as determined by oral reading errors of subjects who scored between 1.6 and 2.6 on the Gates-MacGinitie Reading Test?

Problem 3

What percentage of books designated Grade 1, Grade 2, and Grade 3 according to Readability Graph scores are on an independent, instructional, or frustrational level as determined by oral reading errors of subjects who scored between 1.6 and 2.6 on the Gates-MacGinitie Reading Test?

Hypotheses

Hypothesis 1

The Readability Graph and oral reading errors will correlate positively and significantly on rank order.

Hypothesis 2

The greatest percentage of books marketed for beginning readers will be on a frustrational level as determined by the oral reading errors of subjects who scored between 1.6 and 2.6 on the Gates-MacGinitie Reading Test.

Hypothesis 3

At Grade 1, Grade 2, and Grade 3, according to

Readability Graph scores, the greatest percentage of books will be on a frustrational level as determined by the oral reading errors of subjects who scored between 1.6 and 2.6 on the Gates-MacGinitie Reading Test.

The initial focus of this study is to determine the correlation between Readability Graph scores and oral reading errors. The results should indicate that both procedures similarly rank the difficulty levels of easy-to-read books.

The second and third hypotheses focus on the appropriateness of such trade books for beginning readers. The data used to test these hypotheses would determine whether subjects in this investigation read the selected books on independent, instructional, or frustrational levels. Given results of a frustrational performance, the validity of these books for beginning readers would be questioned since they are too difficult for the children for whom they are marketed.

Importance of the Study

Trade books for beginning readers are commonly found in school and public libraries, classrooms, and private homes. Their sales are aimed at children just learning to read, thus teachers, parents, and librarians purchase them in volume to provide independent reading for primary students. Unfortunately, a quick survey of the available titles will reveal a wide variety of

difficulty levels, many of which are far beyond the ability of beginning readers. An investigation of this select literature is recommended to determine if these books fulfill the purpose for which they are marketed.

The use of the Fry Readability Graph (1971) and oral reading errors will provide a needed comparison of a technical measuring instrument with the actual reading performances of young children. As a research tool, oral reading errors are seldom used because of their lack of practicality; however, they validly measure a child's performance in an objective and independent fashion (Fry, 1969). A positive and significant correlation between the Readability Graph and oral reading errors will support the graph's usage as a convenient estimate of readability.

The use of oral reading errors will provide a basis for judging the difficulty of easy reading books according to independent, instructional, or frustrational levels of performance. It may also indicate a need to re-examine the validity of informal inventory standards (Betts, 1950) when applying them to passages at a primary level.

Definition of Terms

Readability

In a broad sense, readability refers to the sum total of all those elements in a printed matter that affect the success a reader has with it. Success is dependent upon comprehension, speed and interest. In this

study, readability will be defined as the grade score obtained from the Fry Graph for Estimating Readability (1971).

Fry Readability Graph (1971)

The 1971 Fry Readability Graph is a nomograph used to estimate readability levels by plotting sentences-per-100-words and syllables-per-100-words on a graph. The sentence and syllable counts are based on an average from three 100 word passages randomly selected from the user's material.

Trade Books for Beginning Readers

Marketed under a variety of labels, I CAN READ (Harper & Row), Easy-to-Read Series (Reilly & Lee Books), Beginning Books (Random House), Books to Begin On (Holt), Easy Readers (Grosset), See and Read (Putnam), Let's Find Out (Watts), and numerous others, these books are designed for independent reading by beginning readers. They are not intended for use as instructional textbooks but may be incorporated in individualized reading programs.

Oral Reading Errors

Oral errors are defined as mistakes in word recognition which occur during the reading of selected passages. Types of errors counted in this study include those due to repetition, omission, insertion, substitution, request for aid, and partial or gross mispronunciation.

Independent Reading Level

An independent reading level is determined by accurate pronunciation of 99% or more of vocabulary in a

selected passage.

Instructional Reading Level

An instructional reading level is determined by accurate pronunciation of 90% or more of vocabulary in a selected passage.

Frustrational Reading Level

A frustrational reading level is determined by accurate pronunciation of less than 90% of vocabulary in a selected passage.

Limitations of the Study

Two major limitations existed in this study which may reduce the generalization of results: the small number of subjects and the limited number of book selections. The length of time which oral reading consumed necessitated a limited number of book selections because subjects of this age group could not have reasonably been expected to read more than three passages per book for each of the ten books. The amount of time available for pursuit of this data further limited the number of children included in the population.

Oral reading performance was used to evaluate the difficulty of sample books, but comprehension checks were not included in this study. The lack of comprehension data may be regarded as a limitation since reading success does include understanding; however, the objectivity of oral reading quickly establishes whether a book is too easy or

too difficult for a given subject without analyzing the degree of comprehension.

A final limitation was inherent in the Readability Graph since grade level distinctions were not further delineated into preprimer, primer, level 1, level 2^1, level 2^2, etc. Difficulty was reported in whole grade levels although Maginnis (1969) reported some success with a downward extension through the preprimer range.

The books included in this study were a representative sample of the field; however, no judgment had been made concerning their literary merit. This study confined itself to readability, thus consideration on an individual basis would have to be made to evaluate the quality of these trade books.

Overview

This study will examine the current literature on topics appropriate to the investigation and report significant findings in Chapter II. The review will discuss research on trade books for beginning readers, readability, oral reading, and informal reading inventories. The discussion will be confined to studies dealing with these topics at the elementary school level.

Chapters III, IV, and V will be concerned with the investigation and reporting of the problems undertaken. The procedure for examining Readability Graph scores and oral reading errors will be outlined in Chapter III.

Chapter IV will discuss findings of this study and Chapter V will summarize and conclude the results.

CHAPTER II

REVIEW OF THE LITERATURE

The review of literature for this study concentrated on four major areas: research in trade books for beginning readers; research in readability; research in oral reading as a measure of readability; and, research in informal reading inventories. These topics represent the organization for discussion of research findings.

The bulk of literature in readability research consisted of formula presentation and studies of comparative procedure. An examination of major readability measures was included in the search; however, only data pertinent to this study will be reviewed.

Oral reading was examined from two perspectives: its use as a readability device and its function as a part of the informal reading inventory. Most research investigated it in the latter sense and reviewed it as a means of assessing comprehension.

Trade Books for Beginning Readers

The beginning reader is usually exposed to three types of books: the classroom reading text, the trade

book read to the child, and the trade book read independently by the child. As noted by Condit (1959), trade books for independent use differed from reading texts in literary style and in format, but retained several of their requirements, particularly control of vocabulary and sentence length. Their primary function has been to provide materials for independent enjoyment by beginning readers. Supporters of this type of literature reported that motivation and enthusiasm for books have been among the positive results of their use (Arkley, 1969; Newman, 1963; Russell, 1961).

The upsurge of production of easy-to-read trade books was noted during the 1960's (Fagerlie, 1962; Jacobs, 1960; Russell, 1961), however, Davis (1962) attributed the advent of simple child experience books to writers such as Lois Lenski, Margaret Wise Brown, Irma Webber, Inez Hogan, Ruth Krauss, H. A. Rey, Charlotte Steiner, and Francoise. These authors published as early as 1921 and followed the pattern set by Lucy Sprague Mitchell. They blended picture book writing with minimal texts for the benefit of beginning readers. More recently, Dr. Seuss has been called the Pied Piper of this trend due to the success of his book A Cat in the Hat. Subsequent beginner books by Dr. Seuss were received less favorably and criticized by Bailey (1965) as marking the beginning of a crass, marketing approach to literature.

A band wagon effect was noted by Jacobs (1960) who

cautioned that some pause in publishing should occur in order to evaluate the development of these books. Their popularity has been attributable to several factors as noted by Jacobs (1960), Newman (1963), and Russell (1961). During recent years, individualized teaching and emphasis on the needs of a single child led to a break-down of mass instruction, thus thirty copies of a single text were no longer relevant to the school curriculum. Programmed machines, project activities, and independent study created a need for greater variety in materials. Individual reading for personal satisfaction and enjoyment was stressed. Even in the lowest grades, ample supplies of books were desired so children might experience the self-gratification of practicing newly acquired skills. In addition, easy books were used for vocabulary and speed gains at the intermediate level, and for use with remedial classes.

The most controversial feature of books in the easy-to-read field has been the use of controlled vocabulary. Davis (1962) maintained that no normal author could write effectively in two, four, or five hundred words. He cautioned that children would become attuned to repetitious simple ideas and never seek better books. Newman (1963) disagreed by recommending the use of easy-to-read books as fun and as valuable practice for building an enthusiastic attitude toward reading. He cited haiku poetry as a prime example of the beauty which can be expressed with limited use of words. Fagerlie (1962) reported that the number of

different words in books for beginning readers ranged from 50 to 220, while Russell (1961) found a broader spread, from 50 to 338.

In 1960, Jacobs expressed concern about the trivial content of beginner books. The effect of such patterned plots evidenced a lack of originality and minimized the reader's potential. Additional reporters called for the evaluation of easy books according to extensive criteria (Condit, 1959; Early, 1963; Guilfoile, 1962).

Most literature available on easy-to-read trade books discussed the field in terms of literary merit. Several studies also examined their readability (Condit, 1959; Davis, Jr. & Seifert, 1967; Maynard, 1963; Russell, 1961). From a sample of 769 titles, Condit included only 151 selections which met literary and readability criteria for first, second and third-grade levels. Only 5% of the titles were suitable for first-grade readers while 33% could be read by children on an average second-grade reading level. For superior second graders, the amount increased to 95%.

In evaluating a sample of beginner books, Russell (1961) noted a range in grade placement from 1.7 to 2.9 on the Spache Readability Formula. He also noted a wide variety of interest levels and found that the books were most enjoyed by children at second and third-grade levels. Maynard's results (1963) were even more discouraging when only 25% of his sample could be used with children

below a fourth-grade level. On the basis of children's language, Davis, Jr. and Seifert (1967) indicated that the books were appropriate for beginners, however, their conclusions did not discuss readability level but rather the linguistic patterns found in the language development of children. A more recent study (Kaiser, Neils, & Floriani, 1975) examined syntactic complexity and reported a great deal of variability in classroom reading materials.

Vocabulary, of course, was not always the chief factor of difficulty. Guilfoile (1962) related its significance to a meaningful setting, natural story flow, context, and illustrations. As Early (1963) concluded, the best word was not always the simplest, and easy words should never be forced into context. Criteria for evaluating beginner books included the basic characteristics of all good literature: competent writing, attractive illustration, and good design. It also stressed the significance of these books in terms of their own objectives. Consideration was first given for the child and his interests, followed by literary and artistic merit, as well as vocabulary, structure, and physical format (Condit, 1959; Guilfoile, 1962; Jacobs, 1960).

Numerous lists of trade books for beginners were available from libraries, publishing firms, and journals. In editing them, some authors were selective (Condit, 1959; Heller, 1960; Russell, 1961; Tolman & Culliton, 1967; Widdoes, 1972) while others provided inclusive lists

(Arkley, 1969; Dees, 1962; Groff, 1960; Guilfoile, 1962). Throughout the literature, a need for easy-to-read trade books was expressed and, when carefully examined, a select group of books meeting strict criteria could be found. A greater lack of availability evidenced a need for more high quality selections, particularly for the reader at a beginning level.

Developmental History of Readability

The problem of providing materials which are comprehensible and interesting for the reader has been a difficult task for teachers and writers over many generations. This concern has led to the formulation of a readability concept and the development of criteria for assessing it. As early as 1935, Gray and Leary were investigating the elements of a book which affected its ease or difficulty for the reader. In the broadest sense, Dale and Chall (1949) defined readability as the sum total of elements affecting the success of readers with a given printed material. Comprehension, speed of reading, and level of interest determined the reader's success.

Historically, early methods of predicting the reader's success with a book were based upon the professional judgment of writers, editors, and librarians. As might be expected, their opinions often differed and teachers found that some materials were misgraded and inappropriate. The need for objective methods became apparent and several readability instruments were designed. They examined the

internal factors of difficulty such as vocabulary load, sentence structure, and idea density, as well as human interest (Chall, 1958).

In 1921, Thorndike published The Teacher's Word Book. His tabulation of word frequencies enabled subsequent researchers to express the difficulty of vocabulary in quantitative terms. By 1923, Lively and Pressey had developed a measure which was credited as being the first readability formula (Chall, 1958; Klare, 1963). Based on Thorndike's list, it estimated vocabulary difficulty with an index number. Many of the early studies in readability focused upon vocabulary and incorporated Thorndike's list as a criteria. Klare (1963) noted that the methods of Patty and Painter, Vogel and Washburne, Washburne and Morphett, and Yoakam all incorporated these factors when developed during the 1920's and 1930's. The Dolch Combined Word Study List and the Dale List of 769 Words were also utilized by some investigators. The formulas developed by Lorge (1944), Dale and Chall (1948), and Spache (1953) employed the use of word lists and remain, with some modifications, in use today.

In 1925, a publication paralleling the importance of Thorndike's list was issued. Standard Test Lessons in Reading, by McCall and Crabbs, provided a set of graded reading paragraphs that would become the most used and most adequate of available criteria for the construction of readability formulas. The books ranged from third to

twelfth grade and contained paragraphs followed by comprehension questions.

In an extensive review of the literature on readability, Klare (1963) divided the developmental history into four periods:

1. early formulas, 1921 - 1934
2. detailed formulas, 1934 - 1938
3. efficient formulas, 1938 - 1953
4. specialized formulas, 1953 - 1959

Vocabulary was examined as the most important factor of readability in the early studies. Sentence length, number of syllables, noun counts, and word modifiers were among the factors later used to construct more detailed formulas. After 1938, researchers attempted to simplify procedures and make them efficient enough for practical use.

The Dale-Chall formula (1948), for use in grades 3 to 12 was described by Klare as being the most accurate. He noted, however, that the most popular formula has been the Flesch Reading Ease (1948). It was designed for use in grades 3 to 12 and has become the subject of much research data. According to Klare, the Flesch formula estimated grade placements most comparable to the Dale-Chall formula. Correlations for the two methods have generally been high and one study even revealed a .98 coefficient. By early standards, the fastest formula to apply was the Farr-Jenkins-Paterson simplification of the Flesch Reading Ease formula developed in 1951. It was

slightly less accurate than the original version but faster to use. Developed after Klare's 1963 review, additional easy-to-use methods were the Graph for Estimating Readability (Fry, 1968) and the SMOG formula (McLaughlin, 1969). Popular children's formulas included the Washburne-Morphett (1938) formula for use in grades 1 to 9; the Spache (1953) formula and Stone's (1956) revision for use in grades 1 to 3; and, the Wheeler and Smith (1954) formula for use with primer to grade 4 levels.

More recently, Klare (1974) reviewed the research available from 1960 to the present. He included five procedures which recalculated or revised old formulas, as well as 24 new methods of predicting readability. Formulas for use with specialized materials accounted for many of the new devices. A variety of new formulas were applicable for use with elementary and secondary materials, and several attempts were also made to predict readability just at the primary level (Botel & Granowsky, 1972; Harris & Jacobson, 1973). Procedures developed by Botel (1962), Fry (1968), Mugford (1970), and Smith (1961) used sentence length and/or vocabulary as predictive factors. Fry's Graph (1968, 1971) provided a practical method for establishing readability scores and simplified a previously technical process into one suitable for widespread use.

Klare (1974) and Harris (1974) examined several measures which utilized the cloze procedure as a more direct approach to the measurement of difficulty. Developed

by Taylor in 1953, the cloze method is based upon the deletion of words from a passage which the subject then attempts to replace. Cloze is a recent development but has proved sensitive enough to be used as a measure of the comprehension abilities of students and the comprehension difficulties of passages (Anderson, 1965; Bormuth, 1966, 1967, 1968, 1969; Weintraub, 1968).

In reviewing the research on readability devices, Klare (1963) noted a lack of significant studies on their reliability and validity. A maximum correlation coefficient of .70 was indicated for recent formulas between formula scores and indices of difficulty in criterion passages. This figure accounted for approximately 50% of the variance in original passages. In terms of predictive validity, Klare estimated the available measures to be accurate within one grade level of a true rating. Comparative validity was most consistently provided between the Dale-Chall and the Flesch Reading Ease formulas. A summary of validation with outside criteria revealed that 39 out of 65 studies were assessed as positive, 16 as negative, and 10 as indeterminate (Klare, 1963).

No readability device was perfect because of variables inherent in both the reader and the reading matter. However, formulas, graphs, and word lists, many of which are now computer assisted, did approximate the difficulty level of materials. Used with an awareness of their limitations, readability procedures facilitated the process of

matching books to the reader. As noted by Fry (1975), tests and formulas did contain a certain amount of inaccuracy but were a valuable supplement to subjective judgment.

Oral Reading as a Measure of Readability

The use of oral reading as a measure of readability has not received much attention in the literature. It has been justified as a valid method (Fry, 1969), but for practical purposes was severely limited. As an objective procedure, the use of oral reading quickly established whether or not a material was readable: the greater the number of errors, the greater the level of difficulty. This process has been frequently employed in classrooms when teachers informally survey a child's reading ability. Used as a diagnostic tool, oral reading offered opportunities to observe many kinds of errors so that remediation might focus on specific weaknesses rather than an effort at improving reading in general (Della-Piana, 1962).

A study by Coke (1974) investigated the effects of readability on oral and silent reading rates. It was not intended to determine readability but rather to examine its effect on reading rate. The results indicated that speed remained constant at all levels of difficulty when measured in syllables-per-minute. Coke concluded that rate should be measured in units smaller than whole words and that the relationship between rate and readability has been misjudged.

This investigator found only one study which

incorporated the use of oral reading as a measure of readability (Fry, 1969). Comparisons with other formulas in evaluating primary level materials resulted in the rank order correlations of .90 with the Fry Readability Graph and .86 with both the Spache formula and cloze procedure. The positive results of the study indicated a need for further research into this use of oral reading.

Development of the Informal Reading Inventory

Originally developed by Betts (1950), the informal reading inventory has been widely used and recommended as a diagnostic tool (Bond & Tinker, 1967; Fry, 1972; Harris, 1970). Reviews of research on informal testing by Beldin (1970) and Pikulski (1974) reported a gradual emergence of specific criteria for evaluating reading performance. Dissatisfaction with standardized tests had motivated the development of guidelines for informal assessment during the early decades of this century. Many educators contributed to this development but Emmett Betts was credited with collating the prevalent thoughts and expressing the standards for the Informal Reading Inventory. In Foundations of Reading (1950, p. 445), he outlined the following levels:

> The basal level can be described as the highest level at which an individual can read and satisfy all the criteria for desirable reading behavior in silent and oral reading situations.
>
> | | |
> |---|---|
> | Minimum comprehension | 90% |
> | Minimum word pronunciation | 99% |
>
> The probable instructional level ... (is) the

level where instruction can be given to satisfy learner needs.

Minimum comprehension	75%
Minimum word pronunciation	95%

The frustrational level is the lowest level of readability at which the pupil is unable to comprehend printed symbols to a reasonable degree.

Maximum comprehension	50%
Maximum word pronunciation	90%

The capacity level can be described as the highest level of readability of material which the learner can comprehend when the material is read to him.

Minimum comprehension	75%

The criteria for these levels have been generally accepted and fairly well validated through years of use; however, scientific data to support the standards was not available. As confirmed by Powell (1970), the original criteria have been retained with few exceptions despite the lack of valid research data. Betts (1950) defined his criteria on the basis of an investigation by Killgallon at the Pennsylvania State University in 1942. Evidence was conflicting as to how the criteria were established and some investigators have questioned their general acceptance. Powell (1970) examined the test data of 178 children and found that pupils in grades one and two could tolerate an 85% word recognition score while maintaining 70% comprehension. This evidence suggested that the Betts criteria for word recognition were too high for use with first and second graders. Data for pupils in grades three through six were commensurate with the original standards. Powell concluded that the 95% criterion for word recognition needed

reappraisal. A study by Cooper, cited by both Beldin (1970) and Powell (1970), reported contradictory results. He contended that the word recognition criteria were too low and should be raised to 98% for primary levels and 96% for intermediate levels. The evidence for an increase or decrease in criteria values has been scanty but does indicate the need for further study. Research by Lowell (1970) and McCracken and Mullen (1970) affirmed this need.

Support for Betts' criteria was found in two studies utilizing the polygraph to record frustration. As reported by Betts (1950), a student reading at his frustration level exhibits certain behavioral characteristics associated with feelings of anxiety. In two studies, Ekwall (1973, 1974) found no significant difference between the commonly accepted criteria for frustration reading level and the polygraph-measured frustration level when repetitions were counted as errors. His studies also verified the 50% comprehension figure for frustration.

Analysis of the kinds of errors made at various levels was supplied by Christenson and Barney (1969). They found that repetition errors occurred with greater frequency at the independent level, while mispronunciation, refusal, and substitution errors occurred more often at the frustration level.

Christenson (1969) was also concerned about what constituted an error in oral reading. Betts (1950) listed a variety of symptoms that occurred at the frustration

level but didn't specify precisely what to record during an informal inventory. Ekwall (1973, 1974) and Guszak (1970) noted the lack of agreement among researchers and investigated the option of counting repetitions as errors. When frustration levels reflected a count including repetitions, no significant difference was found between the 90% criteria and the polygraph criteria. A difference was found, however, when repetitions were not included. Christenson (1969) reported that a greater concensus of opinion was found among the writers of oral reading diagnostic tests. Three of the four tests examined counted repetitions as errors but only after the student repeated two or more words.

A limitation with use of the informal inventory at primary grade levels was indicated by Maginnis (1969). When choosing passages from graded books, selections at the lower levels of difficulty were usually short. At the preprimer level, as few as 30 words were available. To partially solve this problem, Maginnis proposed the use of the Fry Readability Graph and devised a formula to apply to passages of less than 100 words. He then extended the graph for use at primer and preprimer levels and recommended its use to determine readability for beginning reading materials.

Use of the inventory was intended as a systematic, but informal, appraisal of reading ability. Betts (1950) cautioned against its degeneration into a formal, mechanical procedure. He noted the judgment of the examiner as one of

its chief limitations. Subjectivity was particularly evident in the construction of comprehension questions and in the recording of oral errors. The recent development of the cloze technique presents an alternative means of testing comprehension. Studies by Bormuth (1969) and Guszak (1970) examined the use of cloze in informal reading inventories. The need for further research was indicated since this technique is relatively new. Despite its lack of precise validation, the informal reading inventory has been a valuable diagnostic tool and continues in widespread use (Kender, 1970).

Summary

The literature on trade books for beginning readers stressed the importance of literary merit and indicated a need for evaluation according to strict criteria. The readability levels of many of these books were far too difficult for the young child and weakened the validity of their usage. An extensive study by Condit (1959) revealed that only 5% of the books could be read by first graders. Maynard (1963) and Russell (1961) also reported a broad range of readability scores which extended far beyond the beginning levels of reading.

Research in readability has produced a vast amount of data. The Teacher's Word Book (Thorndike, 1921) and the Standard Test Lessons in Reading (McCall & Crabbs, 1925) provided the first quantitative criteria for developing readability methods. Formulas, graphs, and word lists were

among the devices used to examine correlates of difficulty. Vocabulary and/or sentence length were most often incorporated into the predictive measures, although many other factors were investigated.

Research on the validity of readability measures indicated that the Dale-Chall formula was more accurate than others, but for many formulas, statistical data was lacking. A perfect readability device has not been, and probably never will be developed because of variables such as reader interest and syntactic complexity. Used within their own limitations, available methods do facilitate the process of matching materials with readers. Recent developments, such as the use of cloze techniques and computer assisted devices, may increase the precision of readability methods in the future.

This investigator found very little research which specifically examined oral reading errors as a measure of readability. Many studies discussed oral reading but usually in the context of informal reading inventories. Originally developed by Betts (1950), the inventory continues to be used as an informal tool for diagnosing reading skills and determining levels of function. The criteria for independent, instructional, and frustrational levels have been subjected to much controversy but are still in widespread use (Ekwall, 1973, 1974; Lowell, 1970; Powell, 1970). Lack of agreement on the counting of repetitions as errors was also evident in the literature. As noted in the

discussion of readability, cloze techniques are a recent development in the assessment of comprehension. Their use has been incorporated in several studies of the informal inventory (Bormuth, 1969; Guszak, 1970) and provides an alternative to the subjective comprehension check usually associated with informal diagnosis.

CHAPTER III

PROCEDURE

This study was designed to examine the readability of trade books for beginning readers. Two methods of assessment were employed, the Readability Graph (Fry, 1971) and oral reading errors. A correlational research design has been applied to compare both measurements. Data compiled during oral reading performances was also used to determine the percentage of books at independent, instructional, and frustrational levels for the subjects.

This chapter outlines the procedures and variables of the study. The population of children and books will be described, followed by the construction, selection, and administration of test materials. The treatment of data will be explained and the investigative procedure summarized.

Trade Books

The books selected for use in this study were limited to those designated as easy-to-read books or books for beginning readers. They were randomly selected from the school library shelves by counting off every thirtieth book from a pool of approximately 300. These books were all

collected in a single location thus any of the books chosen would have met this study's criteria. The trade names under which these books were marketed included: I CAN READ (Harper & Row), Easy-to-Read Series (Reilly & Lee Books), Beginning Books (Random House), Books to Begin On (Holt), Easy Readers (Grosset), See and Read (Putnam), A Read Alone Book (Alfred A. Knopf), Beginning-to-Read Book (Follett), A Break-of-Day Book (Coward, McCann & Geoghegan), Easy Reader (Wonder Books), Ready to Read (Macmillan), A Reading Laboratory Book (Children's Press), and Let's Find Out (Watts). The sample used in this investigation was limited to the following ten books: Aaron and the Green Mountain Boys (Gauch, 1972), Clever Kate (Shub, 1973), Danny and the Dinosaur (Hoff, 1958), Fish Out of School (Shaw, 1970), Ida the Bareback Rider (Hoff, 1972), Little Bear (Minarik, 1957), Little Raccoon and No Trouble at All (Moore, 1972), Nobody Listens to Andrew (Guilfoile, 1957), Pippa Mouse (Boegehold, 1973), and Put Me in the Zoo (Lopshire, 1960).

Of the ten sample books, only two were published with specific reading levels. Little Bear and Nobody Listens to Andrew were both labeled first-grade difficulty. The remaining books lacked specific reading levels but were all designated as easy-to-read and appropriate for beginning readers.

Population

The subjects in this investigation were all enrolled in the same class of an elementary school in a suburban New

Jersey neighborhood. According to the 1970 Census of Population and Housing, the mean income for this area was $14,535 and the median level of school years completed was 12.5. The class which these subjects attended was a combination first and second grade.

The students had taken the Gates-MacGinitie Reading Test during the month prior to their oral reading samples. First graders were given Primary A Form 1 while second graders received Primary B Form 1. This study was limited to pupils who scored from 1.6 to 2.6 inclusive on the comprehension section in order to represent middle first to middle second-grade achievement. From this group, five subjects were randomly selected. Their chronological age at the time of testing ranged from 6 years 5 months to 7 years 8 months with a mean of 7 years 0 months. Their vocabulary grade scores on the Gates-MacGinitie ranged from 1.6 to 3.7, and their comprehension grade scores from 1.6 to 2.6. Mean scores of 2.18 for vocabulary and 2.06 for comprehension were obtained.

Construction and Selection of Instruments

The components of this study included a population of trade books (N = 10), a population of subjects (N = 5), the Gates-MacGinitie Reading Test Primary A Form 1 and Primary B Form 1, the Graph for Estimating Readability (Fry, 1971), criteria for oral reading performance, and oral reading samples of the same passages used to determine readability scores.

The Gates-MacGinitie Reading Test was administered to children in the selected class. Recognized as an easily administered survey test, the Gates-MacGinitie provides scores in vocabulary and comprehension. At more advanced levels, scores are also available for speed and accuracy. Reviews of the test cautioned the interpretation of results as functional reading levels. Discussion of content validity urged the user to examine the test items carefully in relation to reading skills being taught. Concurrent validity for various forms was established with four other standardized reading tests. Alternate-form reliabilities were reported from .78 to .89.

To determine readability scores, the Fry Graph (1971) was applied to three passages in each book. An average number of sentences-per-100-words and syllables-per-100-words were plotted to estimate the grade level difficulty for each book. The Fry Graph was chosen because of its ease of calculation and efficiency of administration. It correlates highly with the Dale-Chall, SRA, Flesch, and Spache formulas (Fry, 1968) and encompasses the range of all these measures. Although the Spache formula has been widely used at the primary level, its use cannot be applied as broadly as the Fry Graph, particularly if one incorporates the downward extension of Fry's graph reported by Maginnis (1969). The difficulty levels, as reported by grade scores, were used to establish a rank order. This progression could then be compared to the difficulty levels determined by oral reading

errors.

The predictive value of the Fry Readability Graph could be evaluated by its correlation with the reading performance of children. A positive and significant correlation would further substantiate the validity of Fry's graph, especially with materials on an early primary level.

Investigating the correlation between Fry's Readability Graph and oral reading errors was just part of the larger problem in this study. The data from oral reading of selected passages would also provide a basis for determining how well beginning readers function with the trade books expressly designed for them. The criteria for independent, instructional, and frustrational levels (Betts, 1950) provided another standard by which the difficulty level of sample books was reported.

Administration of Tests

The Gates-MacGinitie Reading Tests Primary A Form 1 and Primary B Form 1 were administered to students within their own classroom. The examiner was investigator for this study as well as the children's classroom teacher. The tests were divided into vocabulary and comprehension sections. Although the Gates-MacGinitie was not a speed test, time allowances were recommended in order for the norms to apply. Excluding preparation time, 15 minutes was allotted for the vocabulary test, and 25 minutes for the comprehension test. Sample items were provided for both sections and children's questions were answered before

proceeding.

The vocabulary test was administered first. It consisted of 48 items, each of which included a picture and four vocabulary words. The directions instructed the pupils to look at each picture and circle the one word that went best with the picture.

The comprehension test was administered at a similar time but one day later than the vocabulary test. Thirty-four items were included each of which consisted of a brief story and four pictures. The children were instructed to read each story and mark the one picture that went best with the story.

Raw scores were obtained by counting the total number of correct responses in each test. These scores could be converted into a grade, percentile, or normalized standard score by using the appropriate table of norms in the teacher's manual. For this investigation, grade level scores were processed for both the vocabulary and comprehension tests. The scores were used as criteria for selecting the sample population. Only children who scored 1.6 to 2.6 inclusive on the comprehension test were eligible.

The procedure for using the Fry Readability Graph (1971) was quite simple. From each of the ten books examined in the study, three 100-word passages were selected, one each from the beginning, middle, and end of the book. For each passage, the total number of syllables and the total number of sentences were recorded. Proper names and written numbers were included in the word count,

however, numerals (i.e. 25), headings, graphs, lists, tables, and poetry were excluded. Hyphenated words and abbreviations were counted as single words; abbrevations and initials were considered single syllables. In counting syllables, a convenient method was to tally, for each word, every syllable over one and then add 100 to the total. Sentence counting was computed to the nearest tenth.

For each book, an average syllable count and an average sentence count were computed from all three passages. When wide variability existed, five sample passages were examined. By plotting these averages on the graph, an approximate grade level of difficulty was determined. A rank order of difficulty was recorded using these readability scores.

The passages selected as samples for estimating readability with the Fry Graph were also used as samples for oral reading (see Appendix A). Each child in the study orally read three passages from each book. A total of thirty passages was read by each subject. All samples for a given book were read during the same day. No more than one book, however, was examined on any given day. Approximately two weeks were needed to complete the sampling. A tape recorder was used to document the readings for future examination. Any mistake in word recognition which occurred during the reading was counted as an oral error. Types of errors included repetitions, omissions, insertions, substitutions, mispronunciations, and requests for aid. When

a child hesitated for five seconds over one word, the examiner supplied the pronunciation.

The mean number of oral errors was computed for each book. These scores were averaged from the total number of subjects and used to compile a second rank order of difficulty.

Oral reading errors were also used to determine the difficulty level of books using criteria based upon Betts' (1950) standards for informal reading inventories. Word pronunciation of 99% was necessary for a book to be judged suitable for independent reading by subjects in this study. Ninety percent word pronunciation was necessary for an instructional level, while less than 90% indicated a frustrational range. Betts' criteria for instruction was 95% but this created a gap in the criteria since 91% to 94% were not included in any specific level. This study extended the instructional word pronunciation range to include performance from 90% to 98%, thus giving sample books more opportunity to score at this level.

Treatment of Data

Data obtained from the use of the Fry Graph and oral reading performances were examined in reference to this study's purpose. The statistical analysis for Problem 1 was correlational. How well does the Fry Readability Graph correlate with oral reading errors? Rank order by readability graph scores and rank order by oral reading errors were compared and coefficients of correlation computed

according to the Spearman formula. A positive and significant correlation would support the use of Fry's graph as a valid measure of difficulty level for primary reading materials.

Problems 2 and 3 of this study were concerned with the percentages of books at independent, instructional, and frustrational levels of difficulty. Oral reading errors and criteria based upon Betts' (1950) standards were utilized to determine performance levels for each selection. Sample books were examined as a total group to satisfy Problem 2 and on separate grade levels of readability for Problem 3.

Summary

Although the samples of books and subjects were limited, the procedure in this study provided a framework for examining the use of Fry's Readability Graph as a valid measure of difficulty level. It also investigated the appropriateness of trade books for beginning readers according to Betts' criteria for oral reading performance.

CHAPTER IV

FINDINGS AND DISCUSSION

The results of this study were examined from several perspectives, all intended to determine the appropriateness of trade books for beginning readers. Readability scores were initially obtained by use of the Fry Graph (1971) and books were ranked according to grade level scores of difficulty. A second measure, oral reading performance, provided a comparative ranking of difficulty according to the average number of oral errors per book made by subjects in the study. The data from these measures was then used to determine how well the Fry Readability Graph correlated with oral reading performance. These results were related to the hypothesis of Problem 1.

Problems 2 and 3 required further evaluation of the data on oral reading errors. The findings were reviewed to assess the difficulty of easy reading books according to Betts' (1950) criteria for independent, instructional, and frustrational levels of performance. Books used in the study were initially examined as a total group and designated according to Betts' criteria. A second evaluation separately reviewed the books which scored Grade 1, Grade

2, or Grade 3 on the Fry Readability Graph. Percentages of books at these levels were then classified as independent, instructional, or frustrational based upon oral reading errors and Betts' standards for performance.

The results of this study are initially presented as data from readability graph scores and data from oral reading errors. Examination of the findings are then organized according to the content of Problems 1, 2, and 3. A discussion will follow to review any relationships found during the investigation and to examine the overall question of appropriateness of easy-to-read trade books for beginning readers.

Presentation of Data on Readability Graph Scores

The Fry Readability Graph (1971) provided an estimate of readability level based upon sentence length and syllable count. Nine of the ten books used in this study ranged from first-grade difficulty to sixth-grade difficulty. One selection, Put Me in the Zoo (Lopshire, 1960), fell below the range of Fry's graph but within a primer category according to Maginnis' (1969) downward extension.

Of the two books published with specific grade levels, only Little Bear (Minarik, 1957) matched the publisher's prediction with a Grade 1 readability score. Nobody Listens to Andrew (Guilfoile, 1957) scored a difficulty level of Grade 2, one level higher than the publisher's indication.

The majority of books had readability scores of Grade 2 despite a variety of differences in sentence and

syllable counts. Table 1 presents the data for sentence count, syllable count, readability level, and rank order according to readability level.

Nobody Listens to Andrew (Guilfoile, 1957), Danny and the Dinosaur (Hoff, 1958), Pippa Mouse (Boegehold, 1973), Fish Out of School (Shaw, 1970), and Clever Kate (Shub, 1973) were not ranked individually since they all scored the same grade level of difficulty. Their rankings would have spanned numbers three to seven, consequently they shared an average ranking of 5.0. A similar situation occurred with Little Raccoon and No Trouble at All (Moore, 1972) and Aaron and the Green Mountain Boys (Gauch, 1972). Both books scored a difficulty level of Grade 3 and spanned rankings eight and nine. Their joint position was thus the average of 8.5.

In an attempt to break the tied rankings and delineate an individual rank for each of the ten books used in this study, the scores for sentence count and syllable count were examined separately. Since no two books had identical counts, selections with tied rankings were reassigned specific positions according to the separate factors of sentence count and syllable count. Two modified rank orders were compiled. In Table 2, the readability ranking was modified so that books with tied ranks were reassigned positions according to sentence count. In Table 3, the ranking was modified so that books with tied ranks were reassigned positions according to syllable

TABLE 1

SUMMARY OF FRY READABILITY GRAPH DATA AND RANK ORDER FOR TITLES USED IN THIS STUDY

Title	Average Sentences Per 100 Words	Average Syllables Per 100 Words	Readability Level	Rank Order
Put Me in the Zoo	17.02	100.33	Primer	1
Little Bear	12.62	113.80	1	2
Nobody Listens to Andrew	18.62	134.40	2	5
Danny and the Dinosaur	15.10	129.60	2	5
Pippa Mouse	13.85	124.20	2	5
Fish Out of School	12.88	125.67	2	5
Clever Kate	12.15	124.00	2	5
Little Raccoon and No Trouble at All	14.05	133.33	3	8.5
Aaron and the Green Mountain Boys	12.50	131.20	3	8.5
Ida the Bareback Rider	9.68	139.20	6	10

Note. Primer readability according to the Maginnis (1969) extension of Fry's Readability Graph

TABLE 2

RANK ORDER ACCORDING TO THE FRY READABILITY GRAPH WITH ADJUSTMENTS FOR TIED RANKS ACCORDING TO THE AVERAGE NUMBER OF SENTENCES PER 100 WORDS

Title and Fry Readability Level		Average Sentences Per 100 Words	Sentence Count Rank Order	Adjusted Readability Rank Order
Put Me in the Zoo	Primer	17.02	2	1
Little Bear	1	12.62	7	2
Nobody Listens to Andrew	2	18.62	1	3
Danny and the Dinosaur	2	15.10	3	4
Pippa Mouse	2	13.85	5	5
Fish Out of School	2	12.88	6	6
Clever Kate	2	12.15	9	7
Little Raccoon and No Trouble at All	3	14.05	4	8
Aaron and the Green Mountain Boys	3	12.50	8	9
Ida the Bareback Rider	6	9.68	10	10

Note. Primer readability according to the Maginnis (1969) extension of the Fry Readability Graph

TABLE 3

RANK ORDER ACCORDING TO THE FRY READABILITY GRAPH WITH ADJUSTMENTS FOR TIED RANKS ACCORDING TO THE AVERAGE NUMBER OF SYLLABLES PER 100 WORDS

Title and Fry Readability Level		Average Syllables Per 100 Words	Syllable Count Rank Order	Adjusted Readability Rank Order
Put Me in the Zoo	Primer	100.33	1	1
Little Bear	1	113.80	2	2
Clever Kate	2	124.00	3	3
Pippa Mouse	2	124.20	4	4
Fish Out of School	2	125.67	5	5
Danny and the Dinosaur	2	129.60	6	6
Nobody Listens to Andrew	2	134.40	9	7
Aaron and the Green Mountain Boys	3	131.20	7	8
Little Raccoon and No Trouble at All	3	133.33	8	9
Ida the Bareback Rider	6	139.20	10	10

Note. Primer readability according to the Maginnis (1969) extension of the Fry Readability Graph

count. The rank positions of other books were not disturbed and remained as originally determined by Fry's readability scores.

Since the new criteria was not applied to all ten books, the modified rankings produced some distortion. Three titles retained their original rank in both tables. Table 2, however, showed that the adjusted order for sentence count differed at seven positions from the real order of difficulty. In Table 3, the discrepancies for syllable count occurred at three positions.

To summarize, three tables of rank order were compiled from data obtained through the use of Fry's Readability Graph. The statistics in all three tables were based upon factors inherent in the reading material. The next presentation of data includes figures based upon the readers' performance.

Presentation of Data on Oral Reading Errors

Oral reading performance provided the basis for a second measure of difficulty. Five readers, whose comprehension scores ranged from 1.6 to 2.6 inclusive on the Gates-MacGinitie Test, read aloud the same three passages from each book used for Fry's Readability Graph scores. Oral errors of omission, insertion, substitution, repetition, mispronunciation, and requests for aid were recorded. The average number of oral errors per book was determined and rank according to these figures was established, as shown in Table 4.

TABLE 4

AVERAGE NUMBER OF ORAL READING ERRORS
PER 100 WORDS AND RANK ORDER
FOR TITLES IN THIS STUDY

Title	Oral Errors Per 100 Words	Rank Order
Put Me in the Zoo	6.00	1
Little Bear	8.73	2
Nobody Listens to Andrew	13.07	3
Little Raccoon and No Trouble at All	13.27	4
Danny and the Dinosaur	13.47	5
Pippa Mouse	14.27	6
Fish Out of School	15.93	7
Clever Kate	18.14	8
Ida the Bareback Rider	20.93	9
Aaron and the Green Mountain Boys	24.20	10

Some disagreement over the counting of repetitions as errors was located in the research (Christenson, 1969; Ekwall, 1973, 1974; Guszak, 1970). Since this controversy may be particularly applicable to the scores of hesitant beginning readers, an additional rank order was compiled excluding repetitions from the count of oral reading errors. The results, however, indicated no change in rank position for any of the books examined. Counting repetitions as errors in oral reading was not a determining factor in assessing difficulty for this study.

Correlations Between Readability Graph Scores and Oral Reading Errors

Data from readability scores was compared with that from oral reading performance. The formula for Spearman rank correlation was applied with computational adjustments made for tied ranks (O'Toole, 1964). A correlation $r = .73$ was computed between rank order according to readability graph scores and rank order according to oral reading errors. This correlation was significant at $p < .05$ and approached the significance of $p < .01$ when $r = .79$. Hypothesis 1 was satisfied by this data and supported the use of Fry's Readability Graph as a convenient tool for estimating readability.

As shown previously in Table 2 and Table 3, rank order was also tabulated with modifications for tied positions made according to the separate counts of sentences-per-100-words and syllables-per-100-words. This

data required the computation of additional coefficients of correlation between the adjusted rankings and oral reading errors.

The correlation coefficient r = .87 was found between rank order by oral errors and readability rank order modified by sentence count. This value was significant at the very strong .01 level. The correlation between rank order by oral errors and readability rank order modified by syllable count was not as significant. Its coefficient r = .52 was less than the critical value of r = .56 for significance at the .10 level.

Both rankings which had been modified for tied positions differed from the ranking of all books according to sentence count and syllable count. As shown in Tables 2 and 3, several discrepancies in rank position occurred which necessitated the computation of additional correlations.

For all books, the correlation between rank order according to sentence length and rank order according to oral reading errors was r = .77 significant at the .05 level. The correlation between adjusted sentence ranking and oral reading errors had been r = .87 significant at the stronger .01 level. Showing parallel results, the correlation between rank order by syllable count and rank order by oral errors was r = .42 while the correlation between adjusted syllable ranking and oral errors was r = .52. Neither value was statistically significant.

Table 5 presents a summary of correlation coefficients pertinent to this study. The most important figure is the coefficient r = .73 between oral error rank and readability rank. Correlations between oral error rank and modified readability ranks were not included in Table 5 since they reflect a distortion of the real ranking as discussed earlier.

The correlation for rank order according to readability scores and rank order according to sentence count was r = .46. Between readability scores and syllable count, the coefficient was r = .84. Both of these figures are contaminated since the determination of readability includes sentence and syllable counts as primary factors.

In summary of the data related to Problem 1, a positive and significant correlation was found between rank order according to the Readability Graph (Fry, 1971) and rank order according to oral reading errors. These results upheld the first hypothesis. The correlations between oral error rank and sentence length rank indicated that sentence length was an important component of difficulty for reading materials at the primary level. Syllable count was not found to be significant in this study.

Oral Reading Errors and Betts' Criteria for Performance

Oral reading has long been used by teachers as an informal diagnosis of readability. Although the results lacked the precision of standardized tests and formulas,

TABLE 5

RANK ORDER CORRELATIONS BETWEEN READABILITY SCORES, ORAL READING ERRORS, SENTENCE LENGTH, AND SYLLABLE COUNT

	Readability Scores	Oral Errors	Sentence Length	Syllable Count
Readability Scores		.73**	.46	.84*
Oral Errors			.77**	.42
Sentence Length				.07
Syllable Count				

*Significant at the .01 level.

**Significant at the .05 level.

the advantages of such a simple survey outnumbered the disadvantages when used on an informal one-to-one basis. Betts (1950) attempted to organize the evaluation of oral reading by establishing comprehension and pronunciation standards for independent, instructional, and frustrational levels of performance.

This study applied criteria based upon Betts' standards for word pronunciation to the oral reading of samples previously evaluated with Fry's Readability Graph. The subjects, whose mean score on the Gates-MacGinitie Reading Test was grade 2.06, had great difficulty with the sample passages according to Betts' criteria. Table 6 presents the data on average number of oral errors-per-100-words and the appropriate levels of performance. Of the ten books evaluated, none were on an independent level, two were on an instructional level, and eight were on a frustrational level. When broken down according to the readability levels of Grade 1, Grade 2, and Grade 3, both books with a first-grade readability were on an instructional level; all five books with a second-grade readability were on a frustrational level; and both books with a third-grade readability were on a frustrational level for subjects in the study. The final book, whose readability was Grade 6, also ranked on the frustrational level. Table 7 presents this data by raw count and by percentage.

In total, of the ten books examined, none were easy enough for independent reading, 20% were appropriate for

TABLE 6

AVERAGE NUMBER OF ORAL READING ERRORS
PER 100 WORDS AND BETTS' LEVEL
FOR TITLES IN THIS STUDY

Title	Average Oral Errors Per 100 Words	Betts' Level
Put Me in the Zoo	6.00	Instructional
Little Bear	8.73	Instructional
Nobody Listens to Andrew	13.07	Frustrational
Little Raccoon and No Trouble at All	13.27	Frustrational
Danny and the Dinosaur	13.47	Frustrational
Pippa Mouse	14.27	Frustrational
Fish Out of School	15.93	Frustrational
Clever Kate	18.14	Frustrational
Ida the Bareback Rider	20.93	Frustrational
Aaron and the Green Mountain Boys	24.20	Frustrational

TABLE 7

NUMBER AND PERCENTAGE OF BOOKS ON A GIVEN GRADE LEVEL AT INDEPENDENT, INSTRUCTIONAL, AND FRUSTRATIONAL LEVELS ACCORDING TO BETTS' CRITERIA

Readability Grade Level	Independent N	Independent %	Instructional N	Instructional %	Frustrational N	Frustrational %
1	-	-	2	100	-	-
2	-	-	-	-	5	100
3	-	-	-	-	2	100
>3	-	-	-	-	1	100
Total N = 10	-	-	2	20	8	80

instructional use, and 80% were on a frustrational level. These results would conclude that none of the sample books were actually easy-to-read for primary children. Publisher labels of easy-to-read were inappropriate for the sample books examined and cast doubt upon their marketing validity.

As stated in the hypothesis for Problem 2, these findings upheld the conclusion that the greatest percentage of books would be on a frustrational level for subjects in this study. When examined at the separate levels of Grade 1, Grade 2, and Grade 3 according to Fry's Readability Graph, the third hypothesis was supported for books at grade levels two and three. At Grade 1, the books were on an instructional, not frustrational, level. Given these results, validation was complete for Hypothesis 2 and partial for Hypothesis 3.

Discussion

The main objective of this study was to examine the readability of selected easy-to-read trade books. In doing so, comparisons were made between data obtained through the use of Fry's Readability Graph (1971) and Betts' (1950) criteria for oral reading performance. The rank order established by each method correlated positively and significantly. A coefficient $r = .73$ was significant at the .05 probability level even after computational adjustments were made for tied ranks. This data supported Hypothesis 1, and also supplied further information for critical analysis of the sample trade books.

Of the ten books examined, only two had a first-grade readability according to Fry's graph. Five books were rated at grade level two, and two books at grade level three. Thus, nine of the ten books were suitable for primary grade children but not until sufficient skill was acquired beyond the beginning reader stage. Two books had been labeled with publisher predictions of difficulty but only one, a first-grade selection, scored a matching readability level according to Fry's graph. The second book, also labeled first grade, had a readability level of Grade 2.

The data on oral reading errors fully supported Hypothesis 2 and partially supported Hypothesis 3. The greatest percentage of books marketed for beginning readers was on a frustrational level when examined as a total group and also when examined at the separate levels of Grade 2 and Grade 3. This degree of difficulty upheld the premise that easy-to-read trade books were unsuitable for most beginning readers.

Fry's readability scores correlated well with oral reading errors on rank order, but did not compare well to actual reading performance. The subjects in this study experienced great difficulty while orally reading the sample passages. According to Betts' criteria, eight of the ten books were on a frustrational level even though most of them had readability scores within a primary range. Since the subjects had a mean Gates-MacGinitie score of

2.06, they could have been expected to read these books more efficiently. Although this was not an exact prediction because of individual differences both in the reader and the subject material, one would expect better performance than that indicated by an 80% frustrational level.

Given these results, the accuracy of Betts' criteria might be questionned. As noted in Chapter II, some research suggested that the standards used by Betts for word recognition were too high (Powell, 1970) and that further study was needed to validate the criteria for oral reading performance (Lowell, 1970; McCracken & Mullen, 1970).

The discrepancy between readability graph scores and actual reading performance might also be attributed to several other factors. Accurate oral reading for any student, particularly a beginning reader, requires practice and such time was not provided in this study. The children read unfamiliar material without any preparation. Furthermore, the Betts' informal reading inventory includes a comprehension check which was not used during this study. Since comprehension is a component of reading success, the performance scores of subjects might have improved if appropriate questions indicated a high degree of comprehension despite numerous oral errors.

Factors which might have inflated readability scores were also evident. In books for young children, the repeated use of proper nouns and high interest words, such

as Frederick and dinosaur, increased the syllable count but were easily acquired by the reader. Also, picture clues aid the beginning reader as well as the motivational factor of high interest.

The data previously presented and discussed clearly evidenced a need for caution in the use of easy-to-read trade books. The limitations of the study may serve to reduce the generalization of results, however, further research was indicated to develop standards of quality as well as readability. This study concurred with those cited in the review of literature that extensive evaluation of this critical area should be maintained (Condit, 1959; Early, 1963; Guilfoile, 1962; Jacobs, 1960). It also concurred with this writer's experience that many trade books for beginning readers are an unfortunate source of frustration for young children.

CHAPTER V

SUMMARY AND CONCLUSIONS

The overall purpose of this investigation was to examine a representative sample of trade books for beginning readers and to determine their appropriateness for young children in terms of readability. These books are commonly found in libraries, classrooms, and homes, purchased by adults anxious to give the beginning reader an opportunity to read independently and practice newly acquired skills. Unfortunately, the research has indicated that many of these books are too difficult for their intended audience (Condit, 1959; Maynard, 1963) and often lacking in literary merit (Bailey, 1965; Early, 1963; Guilfoile, 1962; Jacobs, 1960). This study attempted to provide additional analysis within the framework of readability.

Summary

Two measures for assessing readability were employed: Graph for Estimating Readability (Fry, 1971) and Betts' (1950) criteria for oral reading performance. Both methods have generally been well reviewed in the literature and widely accepted as diagnostic measures but they have not

been used on a comparative basis with one sample population. Fry's graph is a technical instrument designed to evaluate the reading material while Betts' standards examine the actual reading performance of children. This study compared the data obtained through the use of these measures and applied it to the overall question of appropriateness of easy-to-read trade books for beginning readers. It also sought a positive and significant rank correlation between the Readability Graph and oral reading errors in order to support the graph's usage as a reliable estimate of difficulty level.

The subjects involved in this study were five students from a combined first and second-grade class. Their mean age at the time of testing was 7 years 0 months. They were given the Gates-MacGinitie Reading Test and scored a mean grade level of 2.06 on the comprehension section and 2.18 on the vocabulary section.

The books used in this study were selected from the subjects' school library and all met the criteria of easy-to-read according to the publishers' labeling. Ten books were chosen and three 100 word passages from each were selected. These passages were used to determine readability level according to Fry's graph and for oral reading by the five students.

Directions for use of the Readability Graph required sentence counts and syllable counts for each 100 word passage. Average figures for sentence and syllable counts were

computed for each book. Plotted on the graph, these averages determined an approximate grade level of difficulty. The books were ranked in order of difficulty, however, many positions were tied because of identical grade level scores. Additional readability rankings were obtained by reassigning books from tied positions according to their sentence count and syllable count. This process delineated specific rank position for the previously tied books but caused a distortion of the real rank by sentence count and syllable count when all selections were considered.

The passages used to determine readability level were also employed to utilize Betts' criteria for oral reading performance. The five subjects read three passages from each of the ten books. Their performance was recorded on tape and errors of repetition, omission, insertion, substitution, request for aid, and mispronunciation were tallied. For each book an average number of oral reading errors was computed. This data was used to determine another rank order of difficulty. Due to some controversy in the literature, an additional rank was compiled excluding repetitions in the count, however, no change in order occurred as a result of this modification.

The rank order according to readability level was correlated with the rank order according to oral reading errors. The formula for Spearman rank correlation coefficient was applied with computational adjustment made for

tied ranks according to O'Toole (1964).

The data obtained by recording oral errors provided the basis for applying Betts' criteria of performance. The books were judged as independent, instructional, or frustrational according to his standards. Raw counts and percentage counts were compiled for books as a total group and also as separate groups according to the levels of Grade 1, Grade 2, and Grade 3. Data from these tables provided the examiner with sufficient information to determine if the sample books were appropriate for the subjects in terms of difficulty level. No judgment was offered in terms of literary quality but the limitations of oral reading performance without comprehension checks were discussed.

CONCLUSIONS

The investigation for this study examined three problems. The first problem sought validation of a technical measuring device by correlation of its data with the actual reading performance of children. The second and third problems were concerned with determining the difficulty level of sample books by applying Betts' criteria for oral reading errors.

The results of this study are organized according to the appropriate hypotheses.

Hypothesis 1

The Readability Graph and oral reading errors will correlate positively and significantly on rank order.

A positive correlation coefficient $r = .73$ was

obtained between rank order by Readability Graph scores and rank order by oral reading errors. This coefficient was significant at the .05 level of probability and supported Hypothesis 1.

Additional correlations were computed after tied ranks were modified by sentence and syllable count. Between oral error rank and readability rank with ties adjusted by sentence count a coefficient $r = .87$ was obtained and found significant at the .01 level. Between oral error rank and readability rank with ties adjusted by syllable count, a correlation $r = .52$ was obtained but not found to be significant.

Hypothesis 2

The greatest percentage of books marketed for beginning readers will be on a frustrational level as determined by the oral reading errors of subjects who scored between 1.6 and 2.6 on the Gates-MacGinitie Reading Test.

Ten books were evaluated in this study. According to Betts' criteria, none were on an independent level, two were on an instructional level, and eight were on a frustrational level for subjects in the study. In total, 80% were frustrational and 20% instructional. The results thus supported Hypothesis 2.

Hypothesis 3

At Grade 1, Grade 2, and Grade 3, according to Readability Graph scores, the greatest percentage of books will be on a frustrational level as determined by the oral

reading errors of subjects who scored between 1.6 and 2.6 on the Gates-MacGinitie Reading Test.

When examined at separate grade levels of readability, 100% (N = 2) of Grade 1 books were instructional; 100% (N = 5) of Grade 2 books were frustrational; and, 100% (N = 2) of Grade 3 books were frustrational. A final book, whose readability was Grade 6, also ranked on the frustrational level. The data in this study supported Hypothesis 3 at grade levels two and three, but not at grade level one.

The validation of Hypothesis 1 supports the use of Fry's Readability Graph (1971) to rank difficulty levels of books at the primary grades. It is a convenient measure, however, lack of half grade scores at the lower levels is a disadvantage for the teacher of beginning readers. Maginnis (1969) extended the graph into a preprimer range and use of this modification could be investigated for further usefulness.

The validation of Hypotheses 2 and 3 reveals an alarming amount of frustration by subjects reading easy beginner-type trade books. An 80% frustration performance indicates that most of the easy-to-read selections are too difficult for young children, however, some caution in judgment must be exerted.

The generalization that all beginner books are too hard for all beginning readers would unjustly exclude the appropriate selections that are available. Many of these books may also be utilized in read-aloud story sessions.

The small number of subjects and books in this study limits the application of its results even though they are significant. Some consideration must also be given to the standards for oral reading established by Betts in 1950. At the primary level, the standards might be too rigid and a lower criteria for successful performance would be acceptable. Lack of comprehension data in this study provides another limitation which, if included, may have improved the evaluation of the sample books. Finally, lack of precise accuracy in any formula or standard prevents the determination of true readability. Use of these measures must include recognition of their limits.

Suggestions for Further Research

As stated earlier, the limitations inherent in this study suggest areas for further research. The need for larger studies with increased books and subjects is evident. The data from more extensive investigations might increase in statistical significance and provide a broader generalization of results.

Since materials at the lowest levels of readability are difficult to examine because of limited vocabulary and abbreviated content, new or improved means for evaluating them should be explored. Comprehension factors such as picture and context clues are excluded from statistical formulas but play an important role in the success of beginning readers, as do interest and motivational elements. Research to determine important criteria for

evaluating the readability of easy-to-read trade books should be expanded to include such factors.

At all levels of difficulty, validation of readability formulas by oral reading performance would be beneficial. Comprehension data was not included in this study, thus further investigation might also consider how many oral errors can be tolerated while maintaining satisfactory comprehension. Some research has already questionned Betts' standards for oral reading but no conclusive results have been drawn. Further study of this criteria is indicated.

In regards to the literature for young children, continued reserach to develop standards of quality as well as readability is vital. At the youngest grade levels, the pattern for future success in reading is often determined and educators need to continually evaluate this critical area.

Easy-to-read trade books are often the first source to which a child is exposed for recreational reading. Books that are too difficult may frustrate his ambitions and seriously discourage reading for self-enjoyment. Parents and teachers share a responsibility for evaluating the selections made available to a young reader, while publishers need to exercise restraint in order to provide quality rather than quantity for this market.

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APPENDIX A

SAMPLE PASSAGES FROM THE TEN TRADE BOOKS

Pippa Mouse

Rain is falling outside the mouse-hole house. Pippa is tired of watching the rain. "Mother, tell me a story," says Pippa. "Not yet, dear," says Mother. "I must make the beds." "I will help you," says Pippa. Slip-slap. Slip-slap. Slip-slap. The beds are made. "Now is it time for a story?" asks Pippa. "Not yet, dear," says Mother. "Now it is time to sweep." "I will help you," says Pippa. Sweep sweep. Brush and sweep. The sweeping is done. "Now is it story time?" asks Pippa. "My goodness!" says Mother. "Look at the rain! It is .....[1]

"Yes, keep on making noise," softly calls Red Fox. "Please make lots of noise, so I can find you, Pippa Mouse." Now everything is quiet -- very, very quiet. Where is noisy Pippa Mouse? Hiding under a log, she is quiet as a blink, quiet as a wink, quiet as a mouse. "Come and play with me," says Pippa Mouse. "Not now," says Ripple Squirrel. "I must work today. I must gather nuts." "Gray Bird, come play ball," says Pippa. "Not now," says Gray Bird, "I must work today. I have to hunt for seeds." "Weber Duck, you play ball with ....[2]

Pippa puts on her swimming cap, and plays with her Christmas things. Then Pippa pulls some other things out from behind her bed. "Here is something for Mother and Father. Here is something for Ripple Squirrel, for Gray Bird and Weber Duck, too. Hurray for Christmas," says Pippa. Everyone plays a game, everyone sings songs, everyone sits down for Mother's dinner. Then Pippa Mouse is sleepy. "I would like Christmas to last forever," says Pippa. "What?" asks Father Mouse. "And never have time to swim? Or roll nuts? Or run and plan? Or even try to fly?" "Well," says Pippa, ...[3]

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1. Boegehold, B. Pippa mouse. New York: Alfred A. Knopf, 1973. pp. 5-7.
2. Ibid., pp. 30-32.
3. Ibid., pp. 56-61.

Aaron and the Green Mountain Boys

It was a summer night in 1777. Aaron heard a door squeak shut. He jumped out of bed and ran to the window. Below, Pa was swinging his lantern as he hurried down the lane. Other lanterns dotted the night. It was the Green Mountain Boys! Something was up! "It's the war, I know it!" Aaron pulled on his pants. He lived in Bennington, a little village in the Green Mountains of Vermont. The British king ruled it and all America. A lot of Americans didn't think the king ruled fairly. They had gone to war to stop him. Once in .....[4]

But Aaron wasn't thinking about bread. He was thinking, "What a place to be, stuck in bed!" All night he kept listening for the rumble of cannons or the shots of guns. But all he heard were the ch-r-r-r-p of crickets and the bar-r-up of bullfrogs. At dawn he ran to meet the bread wagon. "Sir," he said to the soldiers, "has the battle begun?" "Begun? The rest of the Green Mountain Boys have not even come! And the redcoats are only one town away!" "I'll ride for the Boys," Aaron said. "Your pa's already done that!" Grandpa said. "Maybe ....[5]

They fought hand to hand. Aaron could see the enemy swords flashing. Even the swords couldn't stop the Americans. "They look like farmers, but they're soldiers all right," Aaron thought. And soon the air grew still. The thunder stopped, and through the smoke Aaron saw the Green Mountain Boys and the general and the farmers bringing in prisoners. The Americans had won! The stars shone as the wagon rattled toward Bennington. "I'll never forget tonight, Pa!" Aaron said. "None of us will," said Aaron's father. "And none of us will forget last night either." Aaron yawned. That reminded him. He .....[6]

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4. Gauch, P. L. Aaron and the green mountain boys. New York: Coward, McCann & Geoghegan, Inc., 1972. pp. 7-9.
5. Ibid., pp. 30-32.
6. Ibid., pp. 60-62.

Nobody Listens to Andrew

Andrew said, "Listen, Ruthy. I saw something upstairs. It was in my bed." Ruthy said, "Wait, Andrew. I must put on my roller skates. I want to skate before dark." Andrew said, "Listen, Bobby. I saw something upstairs. It was in my bed on the sun porch." Bobby said, "Don't .....[7]

Bobby stopped playing ball. He said, "Call the dog catcher!" Ruthy stopped skating. She said, "Call the zoo!" Mr. Neighbor stopped taking his dog for a walk. He called the police. He called the fire department. He called the dog catcher. He called the zoo.[8] "Zoom!" came the police. "Zing!" ....

The dog catcher caught the bear in his net. The fireman said, "It climbed up the tree. It climbed in the window." The man from the zoo said, "It is dry in the woods. The bears are thirsty. They are looking for water. I will take this bear to the .....[9]

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7. Guilfoile, E. Nobody listens to Andrew. Chicago: Follett Publishing Company, 1957. pp. 8-10.
8. Ibid., pp. 14-19.
9. Ibid., pp. 24-25.

Danny and the Dinosaur

One day Danny went to the museum. He wanted to see what was inside. He saw Indians. He saw bears. He saw Eskimos. He saw guns. He saw swords. And he saw .... DINOSAURS! Danny loved Dinosaurs. He wished he had one. "I'm sorry they are not real," said Danny. "It would be nice to play with a dinosaur." "And I think it would be nice to play with you," said a voice. "Can you?" said Danny. "Yes," said the dinosaur. "Oh, good," said Danny. "What can we do?" "I can take you for a ride," said the dinosaurs. He put .....[10]

"Oh, what lovely green grass!" said the dinosaur. "I haven't eaten any of that for a very long time." "Wait," said Danny. "See what it says." They both had ice cream instead. "Let's go to the zoo and see the animals," said Danny. Everybody came running to see the dinosaur. Nobody stayed to see the lions. Nobody stayed to see the elephants. Nobody stayed to see the monkeys. And nobody stayed to see the seals, giraffes or hippos, either. "Please go away so the animals will get looked at," said the zoo man. "Let's find my friends," said Danny. "Very .....[11]

It got late and the other children left. Danny and the dinosaur were alone. "Well, goodbye, Danny," said the dinosaur. "Can't you come and stay with me?" said Danny. "We could have fun." "No," said the dinosaur, "I've had a good time -- the best I've had in a hundred million years. But now I must get back to the museum. They need me there." "Oh," said Danny. "Well, goodbye." Danny watched until the long tail was out of sight. Then he went home alone. "Oh, well," thought Danny, "we don't have room for a pet that size, anyway. But we ....[12]

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10. Hoff, S. Danny and the dinosaur. New York: Harper & Row, 1958. pp. 5-13.
11. Ibid., pp. 30-39.
12. Ibid., pp. 60-64.

Ida the Bareback Rider

Ida rode a horse in the circus. Around and around in a circle she went doing tricks on his back. They she took a bow. Everyone cheered. "And now the Flying de Marcos!" cried the ringmaster. The trapeze artists flew through the air. They kept flying back and forth, catching each other's hands and feet. Everybody cheered the Flying de Marcos. They forgot all about Ida, the bareback rider. "I wish people would only watch our act," said Ida. "I wish they would never stop cheering me and my horse." Long after the people had left and the other acts ....[13]

Even the animals got ready. The elephants practiced dancing, the lions and tigers jumped through flaming hoops, the seals balanced balls on their noses, the bears rode bikes, and the monkeys skated. "This is a good circus, many great acts working together," said the ringmaster. Ida smiled. She could hardly wait to prove that her act was best and to hear all the cheering and clapping only for her. It was time for the show. "And now Ida, the bareback rider!" cried the ringmaster. Around and around in a circle rode Ida on her horse. She rode on one foot ....[14]

The circus people ran to see what they could do. Ida, the bareback rider, ran, too. "Please save my horse!" she cried to the others. The clown passed a bucket to the midget; the midget passed it to the giant; the giant passed it to the fat lady; the fat lady passed it to the human skeleton. All the circus people helped to throw water on the fire, and the animals were saved! "That's a circus. Many great acts working together!" cried the ringmaster after the fire was put out. "He's right," said Ida. "My horse wouldn't have been saved ....[15]

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13. Hoff, S. Ida the bareback rider. New York: G. P. Putnam's Sons, 1972. pp. 5-10.
14. Ibid., pp. 16-20.
15. Ibid., pp. 27-30.

Put Me in the Zoo

I will go into the zoo. I want to see it. Yes, I do. I would like to live this way. This is where I want to stay. Will you keep me in the zoo? I want to stay in here with you. We do not want you in the zoo. Out you go! Out! Out with you. Why did they put me out this way? I should be in. I want to stay. Why should they put you in the zoo? What good are you? What can you do? What good am I? What can I do? Now here ....[16]

I can put my spots up on this ball. And I can put them on a wall. I can put them on a cat. And I can put them on a hat. I can put them on the zoo! And I can put my spots on you! Look at this, now! One! Two! Three! I can put them on a tree. And now when I say, "One, two, three." All my spots are back on me! Look, now! Here is one thing more. I take my spots. I make them four. Oh! They would put me in the zoo, if ....[17]

I call them back, now, One! Two! Three! Now all my spots are back with me. Tell me. Tell me, now, you two. Do you like the things I do? Tell me. Tell me, now, you two. Will they put me in the zoo? We like all the things you do. We like your spots, we like you, too. But you should not be in the zoo. No. You should NOT be in the zoo. With all the things that you can do, the circus is the place for you! Yes! This is where I want to be. The circus ....[18]

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16. Lopshire, R. Put me in the zoo. New York: Random House, Inc., 1960. pp. 3-14.
17. Ibid., pp. 24-35.
18. Ibid., pp. 52-61.

Little Bear

It is cold. See the snow. See the snow come down. Little Bear said, "Mother Bear, I am cold. See the snow. I want something to put on." So Mother Bear made something for Little Bear. "See, Little Bear," she said, "I have something for my little bear. Here it is. Put it on your head." "Oh," said Little Bear, "it is a hat. Hurray! Now I will not be cold." Little Bear went out to play. Here is Little Bear. "Oh," said Mother Bear, "do you want something?" "I am cold," said Little Bear. "I want something to put ....[19]

"Now here is some soup for you, Hen," says Little Bear. "And here is some soup for you, Duck, and here is some soup for you, Cat, and here is some soup for me. Now we can all have some Birthday Soup." Cat sees Mother Bear at the door, and says, "Wait, Little Bear. Do not eat yet. Shut your eyes, and say one, two, three." Little Bear shuts his eyes and says, "One, two, three." Mother Bear comes in with a big cake. "Now, look," says Cat. "Oh, Mother Bear," says Little Bear, "what a big beautiful Birthday Cake![20]

"Tell me something more about me." "Well," said Mother Bear, "once you put on your space helmet and played going to the moon." "That was fun, too," said Little Bear. "Tell me more about me." "Well," said Mother Bear, "once you thought you had no Birthday Cake, so you made Birthday Soup." "Oh, that was fun," said Little Bear. "And then you came with the cake. You always make me happy." "And now," said Mother Bear, "you can make me happy, too." "How?" said Little Bear. "You can go to sleep," said Mother Bear. "Well, then, I will," said Little ....[21]

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19. Minarik, E. H. Little bear. New York: Harper & Row, 1957. pp. 11-14.
20. Ibid., pp. 30-34.
21. Ibid., pp. 59-60.

Little Raccoon and No Trouble at All

"Little Raccoon," said his mother, "Will you help?" Little Raccoon jumped up. "Do you want me to go to the running stream?" "No," said his mother. "Do you want me to get some crayfish for supper?" "No," said his mother. "I want you to listen. Mother Chipmunk and I must go to the outside world. Will you take care of her two baby chipmunks till we get back?" "Will you, Little Raccoon?" asked Mother Chipmunk. Little Raccoon looked at the baby chipmunks. "I never did that before," he said. The two chipmunks sat very still, looking up at Little Raccoon.[22]

And the chipmunks hid behind a tree. Little Raccoon went around the tree, but the chipmunks went faster. He did not see them. "Are you there?" he asked. "Yes!" cried the chipmunks. Little Raccoon went around the tree again. Around and around. To his surprise, he still did not see the chipmunks. He went faster and faster. Around and around. All at once the world was going around and around, faster and faster. Little Raccoon was so dizzy he had to sit down. "Here we are!" cried the chipmunks. "No more tricks," said Little Raccoon. "You sit here and you ....[23]

"Beaver," said Little Raccoon, "the chipmunks want to come back." "Hop on!" said Beaver to the chipmunks. And he took them back across the pond. "Stay right behind me," said Little Raccoon. "All the way home!" That's what the chipmunks did. And all the way home, Little Raccoon sang: "Ah! Crayfish! Crayfish! It's an eat-it-everyday fish." They got home just as Mother Raccoon and Mother Chipmunk did. "Hello, my little ones," said Mother Chipmunk. "Were you good? Were they good, Little Raccoon?" The chipmunks looked at Little Raccoon. Little Raccoon looked at the chipmunks. "No trouble at ....[24]

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22. Moore, L. Little Raccoon and no trouble at all. New York: McGraw-Hill, 1972. pp. 7-8.
23. Ibid., pp. 25-27.
24. Ibid., pp. 45-48.

Fish Out of School

The sun had set. It was night. In the sea, the herring fish swam very slowly. They swam in a group called a school. Soon the fish stopped swimming because it was very dark. They rested together on the sandy bottom of the sea. They slept. Fish do not sleep like people. They do not have eyelids, so they cannot close their eyes. When they sleep, they seem to be looking at one another. The herring fish slept all night. The sun rose, and light came into the sea. One by one the fish woke up. They began to move ....[25]

She saw a big dark animal in the distance. From far away, a school of fish looks like a big dark animal. It may scare big hungry fish away. When the little fish started to swim away, she saw it was a school. But the school was in danger. A sea turtle was chasing the school. The turtle stretched out his neck. He snapped at the fish. He was trying to catch one of them. But each time he stuck out his head, the fish changed direction. The fish in the school were swimming in many directions. They looked like ....[26]

While they fed, the fish did not swim in a school. But they never went very far from each other. When they finished feeding, they came close together. They formed into a school again. They swam in one direction together. This was not the same school that had left the little fish. She did not know that. It did not matter. They were the same kind of fish. It did not matter to the school either. The little fish looked exactly like them. The school spent the day swimming and resting. In the evening they searched for food again. Then ....[27]

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25. Shaw. E. Fish out of school. New York: Harper & Row, 1970. pp. 9-12.
26. Ibid., pp. 30-35.
27. Ibid., pp. 56-59.

Clever Kate

One morning Frederick said to Kate, "I'm going to do some plowing. I'll be back in time for lunch." "I'll have a nice lunch ready," said Kate. Frederick and Kate had been married a week. Kate put the house in order. Then it was time to make lunch. "I'll make a good tasty sausage for Frederick," she decided. And she put a sausage in a pan. Soon the sausage began to sizzle. "Some cold beer would go well with this sausage," she said to herself. Kate took a pitcher and went to the cellar. She turned the tap of the ....[28]

"What are these?" said Frederick when he came home. "I traded all these pretty pots for the yellow buttons in the box you buried behind the cow's stall," Kate answered. "And, Frederick, I did just as you said. I did not go near the barn. I told the peddlers to dig up the box themselves." "Oh Kate," said Frederick. "The buttons were gold coins. You should not have done that." "But Frederick, I did not know that they were coins. You should have told me." Kate was very unhappy. "Let us go after the thieves and get our money back ....[29]

"The door is no lighter," Kate said to Frederick. "May I let it fall now?" "No! Not now, Kate. You must wait, or the peddlers will find us." "I cannot wait," said Kate. "I am letting it fall." The door came down with a loud crash. "The devil is coming," the peddlers screamed. They ran for their lives and left everything where it lay. As soon as it grew light, Frederick and Kate climbed down. They gathered up the gold coins and not a single one was missing. They started for home and carried the door between them. "I'm hungry," ....[30]

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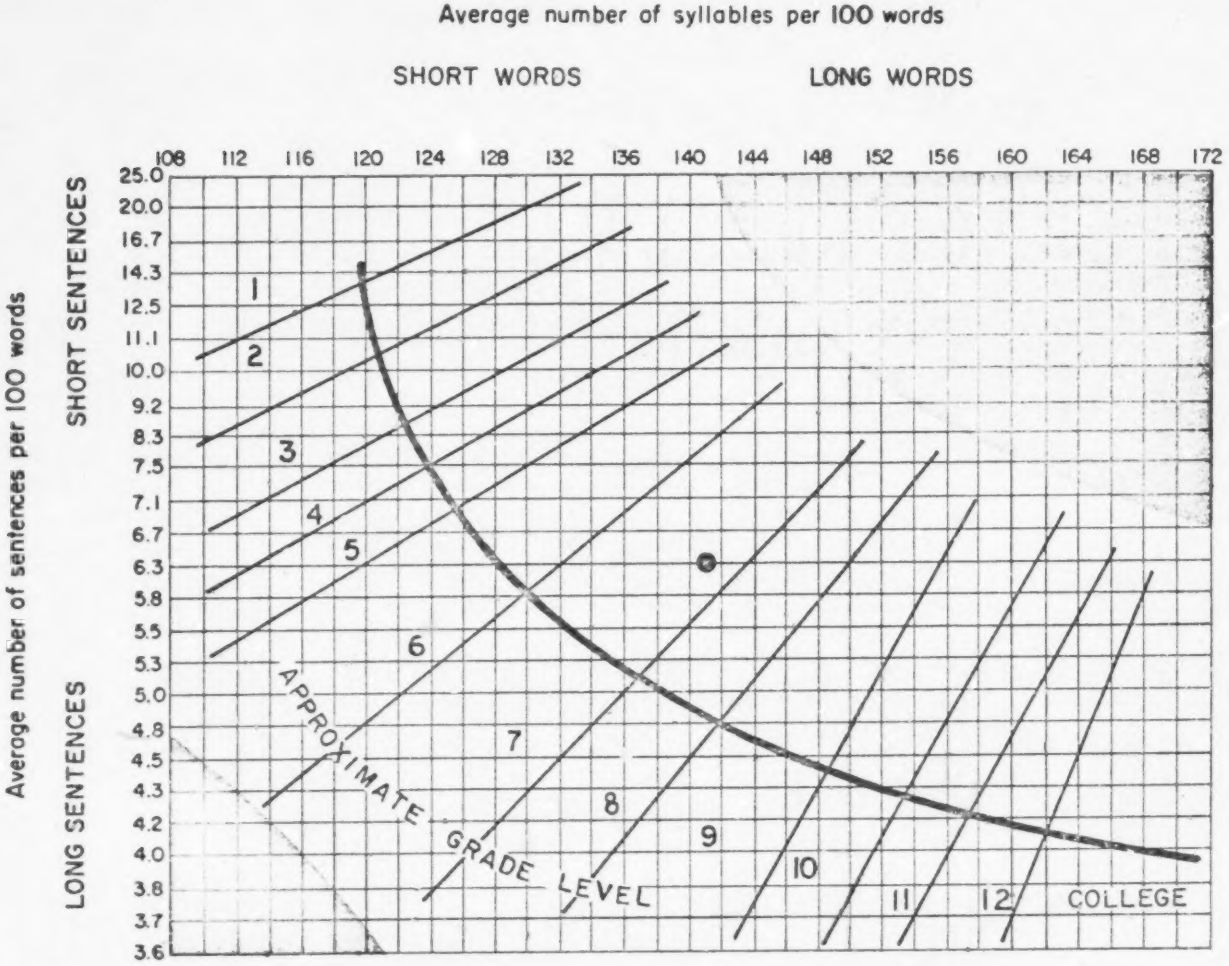
28. Shub, E. Clever Kate. New York: Macmillan Publishing Co., Inc., 1973. pp. 6-9.
29. Ibid., pp. 30-33.
30. Ibid., pp. 56-60.

APPENDIX B

GRAPH FOR ESTIMATING READABILITY

GRAPH FOR ESTIMATING READABILITY

by Edward Fry, Rutgers University Reading Center, New Jersey



DIRECTIONS: Randomly select 3 one hundred word passages from a book or an article. Plot average number of syllables and average number of sentences per 100 words on graph to determine the grade level of the material. Choose more passages per book if great variability is observed and conclude that the book has uneven readability. Few books will fall in gray area but when they do grade level scores are invalid.

EXAMPLE:

	SYLLABLES	SENTENCES
1st Hundred Words	124	6.6
2nd Hundred Words	141	5.5
3rd Hundred Words	158	6.8
AVERAGE	141	6.3

READABILITY 7th GRADE (see dot plotted on graph)

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For further information and validity data see the April, 1968 Journal of Reading and the March, 1969 Reading Teacher.

RUTGERS UNIVERSITY *The State University of New Jersey*

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GRADUATE SCHOOL OF EDUCATION
10 Seminary Place
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ADDITIONAL DIRECTIONS FOR WORKING READABILITY GRAPH

1. Randomly select three sample passages and count out exactly 100 words beginning with a beginning of a sentence. Don't count numbers. Do count proper nouns.

2. Count the number of sentences in the hundred words estimating length of the fraction of the last sentence to the nearest 1/10th.

3. Count the total number of syllables in the 100-word passage. If you don't have a hand counter available, an easy way is to simply put a mark above every syllable over one in each word, then when you get to the end of the passage, count the number of marks and add 100.

4. Enter graph with average sentence length and number of syllables; plot dot where the two lines intersect. Area where dot is plotted will give you the approximate grade level.

5. If a great deal of variability is found, putting more sample counts into the average is desirable.